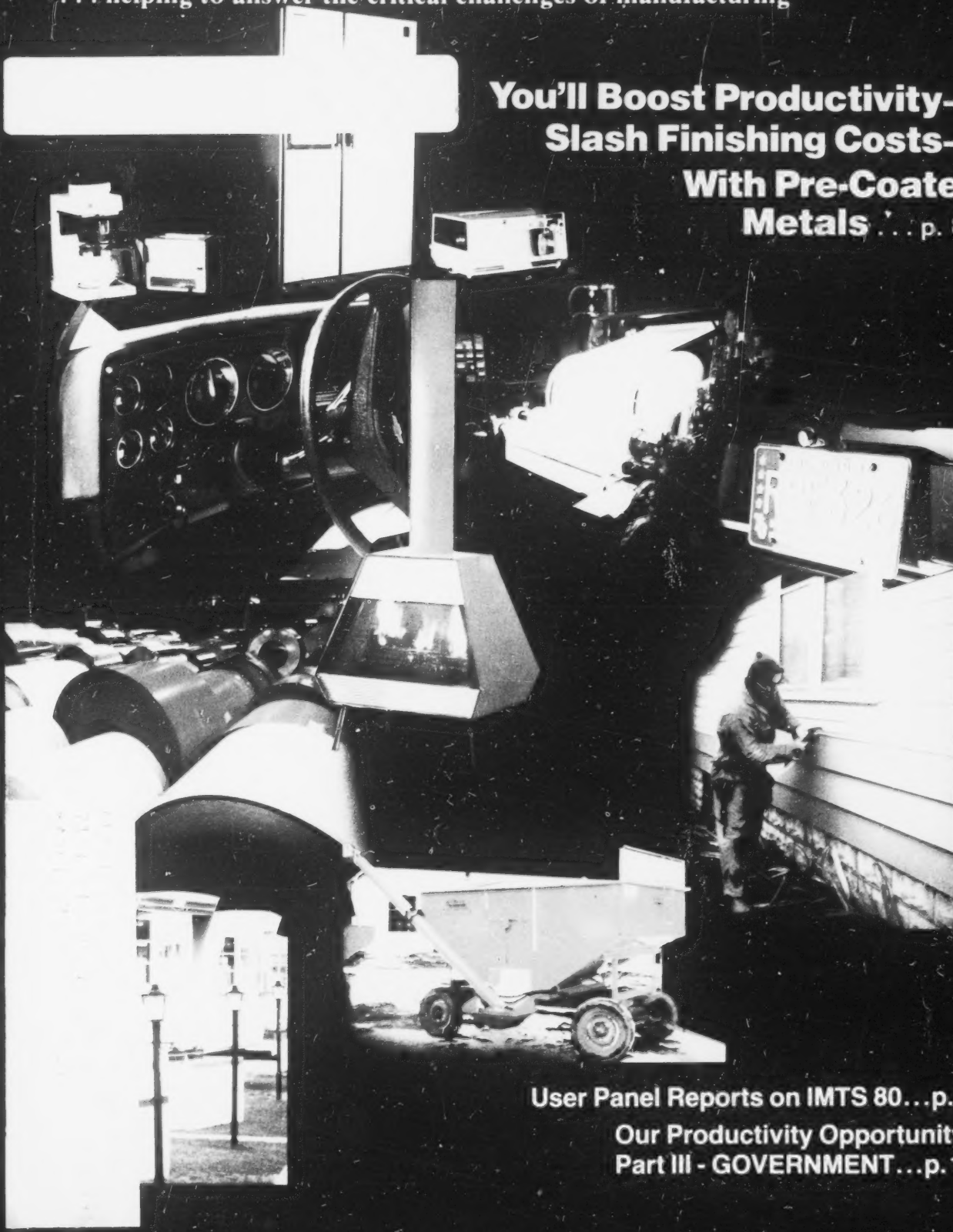


October 1980

PRODUCTION

... helping to answer the critical challenges of manufacturing



**You'll Boost Productivity—
Slash Finishing Costs—
With Pre-Coated
Metals ... p. 86**

User Panel Reports on IMTS 80...p. 92

**Our Productivity Opportunity
Part III - GOVERNMENT...p. 113**

PRODUCTION®

It is the purpose of **PRODUCTION** to recognize and to fulfill the special needs of the managers and engineers who are responsible for improving manufacturing efficiency, costs and quality in production metalworking plants, and selected supplier industries.

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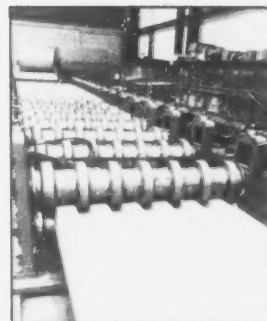
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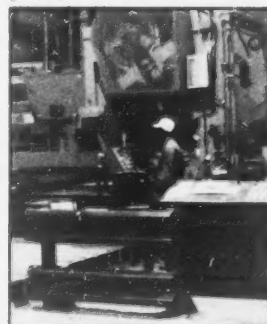
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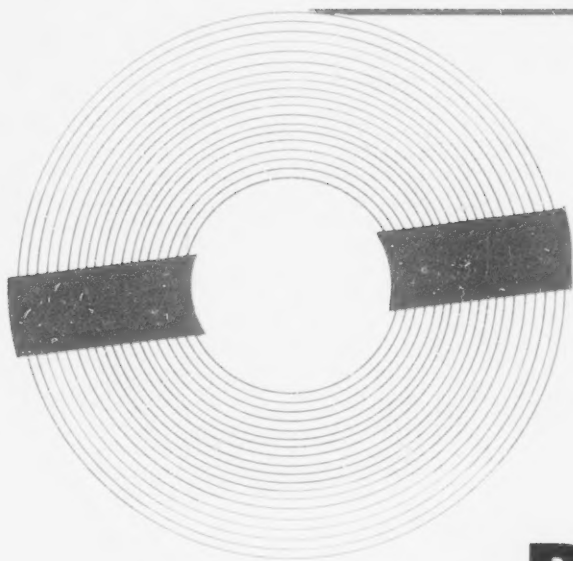
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Changing material buying practices can do as much to improve productivity as motivating workers and replacing old machinery. A switch to pre-coated metals can trigger big improvements

You'll Boost Productivity— Slash Finishing Costs— With Pre-Coated Metals

Productivity is not an overworked topic. Quite the opposite. Indicators of domestic performance suggest that even more attention needs to be paid to this issue.

What is overworked are claims that the cure for declining productivity rests solely with job enrichment and quality of worklife programs designed to motivate bored workers. This is an oversimplification.

Big jumps in productivity will be triggered by accelerating research in new manufacturing techniques and by adopting technology proved but heretofore applied narrowly. Pre-coated metals fall within this second category.

Pre-coated metal is stock painted or otherwise coated on a coil-coating line with an adhesive, lubricant, weldable primer, etc., and shipped to the end user ready-to-fabricate. It is available from some mills, independent coil coaters and increasingly through metal service centers.

Gregory C. Smith, president and chairman of the board, Wolverine Aluminum Corp., Lincoln Park, MI,

says: "When you use a coil-coated product you don't have to worry about productivity in your finishing operations. It is our problem."

Today's Market. There has been a tenfold increase in the use of pre-coated metals since 1962. From less than a half million tons the market has grown to about four million tons. Steel represents about 80 percent of shipments. The balance is primarily aluminum. Zincrometal currently accounts for 25 percent of shipments.

The benefits of converting to pre-painted metals are broad and often immediate. PRODUCTION questioned industry spokesmen to identify some of these benefits.

Q Why should you consider converting from post-painting to pre-coated metals?

There are several answers to this question: To improve end-product quality; to improve in-plant productivity; to reduce finishing/manufacturing costs.

Today's pre-coated product is superior to what was available ten years ago. An endless combination of

metal substrates, coating formulations and finishes, and coil-coating line capabilities give end users unlimited flexibility to customize products. The coatings, which can be both functional and decorative, provide excellent consistency of color, thickness, gloss and texture. Seldom do quality standards need to be compromised.

Metal destined for the coating line is also produced to tight standards. "We don't have the hot dipped galvanized we used to have, for example," says Charles Donnelly, market planning manager-Coated Products, United States Steel Corp., Pittsburgh. "Today's mill practices minimize spangle so we don't have the big, flowery spangle relief to paint over. Steel quality, from a surface standpoint and from a shape-control standpoint, has improved."

Improvements in substrates and in coatings add up to reduced scrap. Donnelly says scrap from appliance-grade coated stock can run from 10 to 15 percent from a 40,000-lb coil depending on the critical nature of the appliance application. For material used in engineered buildings it might be half that or less. Careful in-plant handling of pre-coated metal is the key to low scrap.

"The coil coater always has to be under control," adds Ted Olt, Jr., general manager, Nichols Div., Nichols-Homeshield, Inc., Davenport, IA. "What we have if we are not under control is a high-speed method of generating scrap. For example, if we buy aluminum for \$1 a lb and sell it with paint on it for \$1.20 a lb we have an absolute potential to convert it to painted scrap aluminum worth 40 cents a lb. It is possible to lose from 60 to 80 cents a lb on every lb painted improperly. And at 250 fpm line speeds, it can add up to a bundle very rapidly."

In-plant productivity will improve and finishing costs will drop with the use of pre-coated metal because all operations associated with metal cleaning, rinsing, pre-treatment and painting are eliminated. This means the cost of equipment, direct and indirect labor, and any bottlenecks associated with these operations are eliminated. Freed capital, engineering skill and labor can be focused on fabricating and assembly operations.

Q Under what circumstances should a change to pre-coated metals be considered?

The agreed-upon answer to this question is at that point in time when existing paint lines become impractical to operate because of costly modifications demanded by environmental and safety regulations, or when additional finishing capacity is required.

"It is pretty hard to justify the use of pre-coated

metal unless you are going to expand, move to a new location or open a new plant," says Donnelly (U.S. Steel). "If a fellow has an existing facility he can still paint cheaper than buying coil-coated material. But if he has an expansion program, or if he has an OSHA or EPA problem, then coil coating becomes pretty attractive. Then it is a different ball-game."

Energy costs are a big factor, too. According to the National Coil Coaters Assn., Philadelphia, metal can be painted on a coil-coating line using from 1/5 to 1/6 the energy consumed by conventional painting systems using curing ovens. In today's energy climate, this factor alone can often tilt the economic scales in favor of pre-painted metals.

Olt (Nichols-Homeshield) adds: "People should consider pre-coated metal because it is clearly to their best interest, both economically and ecologically. It is

Who's Using Pre-Coated Metals

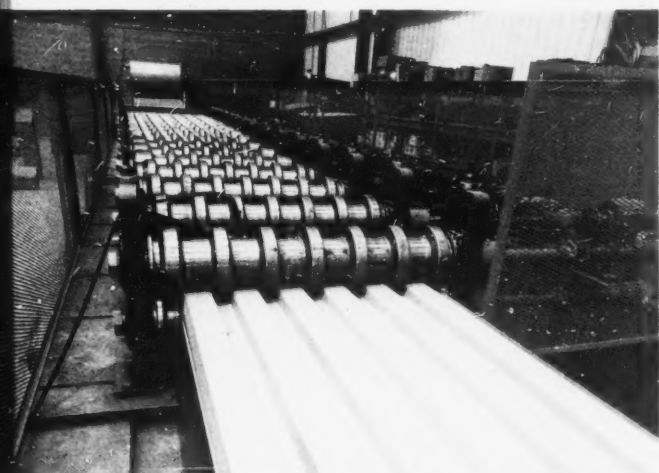
Steel (in tons)

● Passenger Automobiles	782,114
● Industrial Rural Buildings	965,502
● Lighting Fixtures	81,085
● Trucks, Trailers & Shipping Containers	36,137
● Shelving & Fixtures	35,509
● Heating, Water Heating & Water Softening Equipment	30,798
● Container Strapping & Seals	41,974
● Portable Buildings & Parts	28,995
● Metal Doors & Windows	36,053
● Refrigerators & Freezers	41,899

Aluminum (in tons)

● Residential Siding	124,987
● Cans, Ends & Tabs	192,073
● Service Centers & Dist	8,426
● Mobile Homes	56,313
● Travel Trailers & Campers	15,138
● Trucks, Trailers & Shipping Containers	19,880
● Awnings & Canopies	28,639
● Rain Carrying Equipment	27,858
● Industrial Rural Buildings	19,106

Source: NCCA



Roll forming is one of the most suitable methods for shaping pre-coated metals. At Wolverine Aluminum Corp., Lincoln Park, MI, the industry's fifth largest coil coater, it is used extensively to produce product for the building industry

something that has to be looked at. Many smaller companies probably haven't faced the ecological pressures that some of the larger companies have on air, water and solids. But they will. Therefore, any company with in-house painting is a candidate for using pre-coated material."

"In the final accounting," adds Smith (Wolverine Aluminum), "basic economics will make the difference." He says you need to look at your current finishing costs and compare these to the cost of using pre-

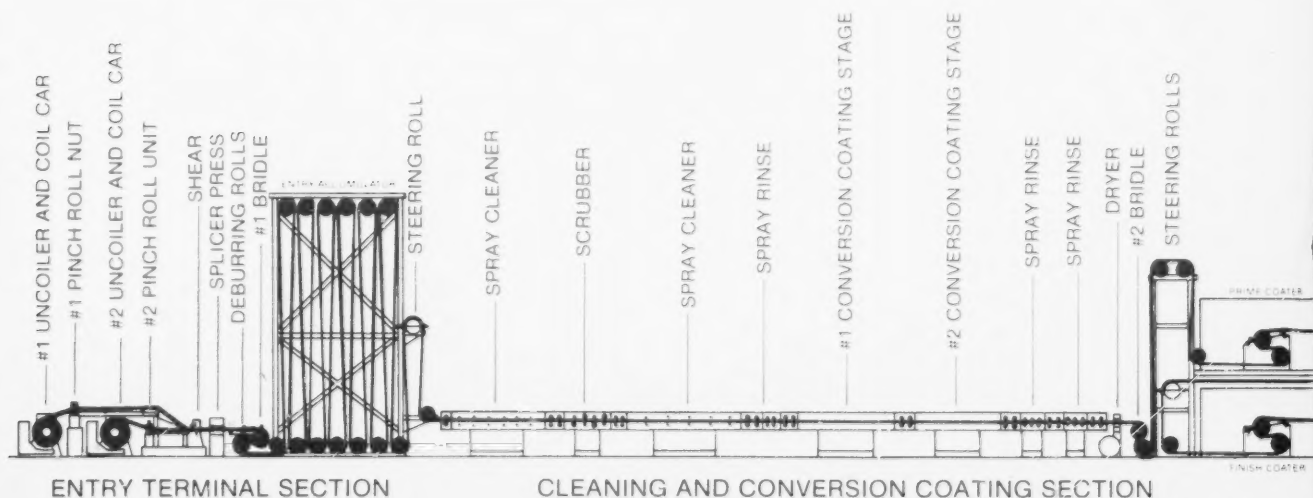
coated metals. (The Coil Coaters Assn. has forms to assist you in doing this.)

Although there is no price book on painted stock, Smith did provide these guidelines. "Coating charges on appliance-quality finishes will result in about a 33 percent markup over the steel. Zincrometal, depending upon the finish, has probably a 10 to 12 percent markup over the base metal. Of course, we can provide a finish that costs more than the base metal. Special fluorocarbon colors for industrial buildings, for example, could represent a 150 percent markup over the steel. But, overall, a 20 to 25 percent markup is what you are going to have over the base metal."

Q What are the characteristics of a good candidate part for pre-coated metal? "The first thing to look at," says Donnelly (U.S. Steel), "would be a part that has some kind of finish coat now. Of course, it is almost automatic that you have to take into consideration the design of the product. You have to be willing to bend designs to allow for more liberal radii and, of course, you can't weld sheet as you have in the past."

Basil Davies, corporate manager, marketing—Coated Products, National Steel Corp., Pittsburgh, says: "A good candidate has to be one that isn't going to be a deep draw application. Something that is going to be roll formed or formed on a press brake is a better candidate because when you deep draw the problem would be disruption of the paint film. Applications which do not require surface finishing beyond the pre-coated finish also tend to be better candidates."

"Also very logical candidates for coil-coated stock



are parts that are difficult to paint in a conventional manner," says Gerry Grob, senior product specialist-Coated Products, Eastern Steel Div., Armco, Inc., Middletown, OH. "An example is where one is looking for different colors between sides, say, black on one side and white on the other. In a spray system or dip system this is about impossible unless you go with a lot of masking. For us, it is like falling off a log."

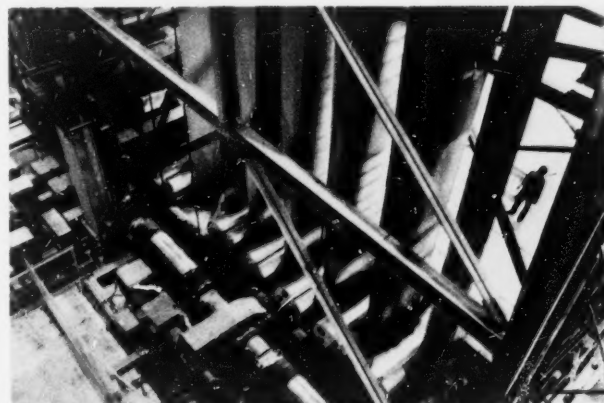
Grob says: "There are also a lot of little parts that are hard to paint conventionally, parts like automotive mirror housings and breather caps, and lighting fixtures. With pre-coated stock you can just stamp these parts out."

Q What technical developments should a potential user of pre-coated stock be aware of?

Certainly high on the list of recent developments is the expanding capability of coil-coating lines. John Benson, vice president, sales, Roll Coater Inc., Greenfield, IN, says: "Until recently there has not been very much coil-coating capability that could really handle heavier gage material. But with the building of some newer lines the industry has the capability of handling thicknesses of up to .125 in. This expands areas where design engineers can look to pre-painted metals. In the past we had to be content with .050 in.

"With this new equipment capability, the coil-coating industry is really opening up areas that previously wouldn't be potential markets. An example would be culvert stock formed from coated galvanized as a replacement for concrete culvert pipe."

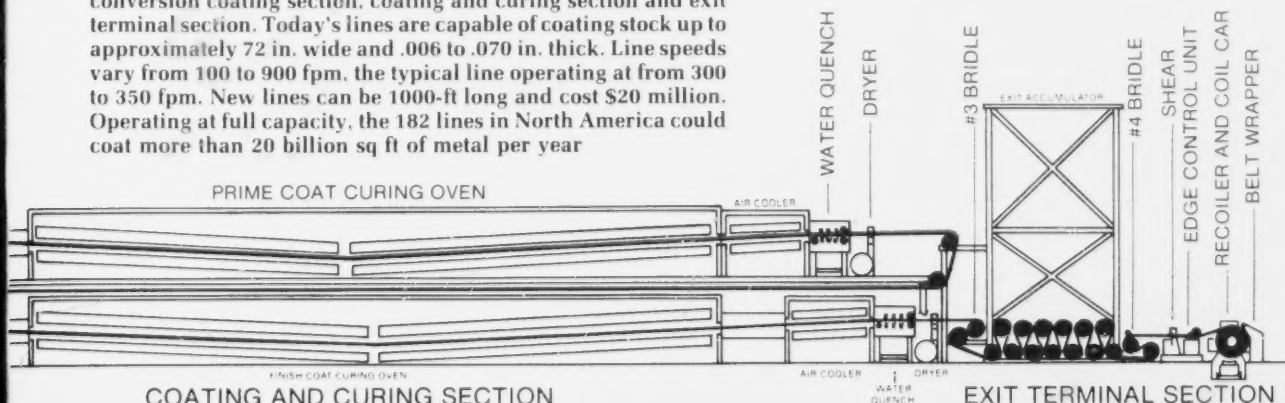
The 182 coil coating lines in North America are all designed around four basic elements: entry terminal section, cleaning and conversion coating section, coating and curing section and exit terminal section. Today's lines are capable of coating stock up to approximately 72 in. wide and .006 to .070 in. thick. Line speeds vary from 100 to 900 fpm, the typical line operating at from 300 to 350 fpm. New lines can be 1000-ft long and cost \$20 million. Operating at full capacity, the 182 lines in North America could coat more than 20 billion sq ft of metal per year



Roll Coater's No. 5 line in Kingsbury, IN, is one of the world's largest lines. It coats heavy gage material, up to .125 in., and has maximum width capacity to 72 in. It operates at speeds of up to 800 fpm

Formability. This has long been a question mark. It is a problem being overcome today, however. Roll Coater says zero-T bends are no problem now. "This is a success story at General Electric, Decatur, AL, where the first all-coated-coil refrigerators were produced in 1977.

"GE needed a paint system approaching the hardness and durability and stain resistance it would get with post-painting refrigerators. In order to get this and still have the configuration it wanted for door stock and wrappers, GE expected that it would have to make design and finish compromises," says Benson.



HERE'S YOUR GUIDE TO DOMESTIC COIL COATERS

Steel and Aluminum

Revere Aluminum Building Products, Inc.

Franklin Park, IL
(312) 455-7200

Pre-Finish Metals, Inc.

Elk Grove Village, IL
(312) 439-2210

Litho-Strip Co.

Chicago
(312) 254-3400

Roll Coater, Inc.

Greenfield, IN
(317) 462-7761

Wolverine Aluminum Corp.

Lincoln Park, MI
(313) 386-0800

Nichols-Homesield, Inc.

Davenport, IA
(319) 324-2121

American Metals Corp.

Westlake, OH
(216) 871-8000

Elwin G. Smith Div.

Cyclops Corp.
Pittsburgh
(412) 761-7474

Plasteel Products Corp.

Washington, PA
(412) 222-7400

Enamel Products & Plating Co.

McKeesport, PA
(412) 461-2780

Prior Coated Metals Co.

Allentown, PA
(215) 797-5200

Southeastern Coated Products

Columbia, SC
(803) 771-7920

Hunter Douglas, Inc.

Roxboro, NC
(919) 599-2152

Levolor Lorentzen, Inc.

Hoboken, NJ
(201) 792-2600

Chesapeake Finished Metals, Inc.

Baltimore
(301) 796-4770

Teledyne Rodney Metals

New Bedford, MA
(517) 996-5691

Howmet Aluminum Corp.

Mesquite, TX
(214) 285-8811

Supracote, Inc.

Rancho Cucamonga, CA
(714) 987-4711

California Finished Metals, Inc.

Cucamonga, CA
(714) 987-4581

Hexcel Corp.

Dublin, CA
(415) 828-4200

Steel Coaters

Armco, Inc.

Middletown, OH
(513) 425-2326

National Rolling Mills Co.

Pack, PA
(215) 644-6700

Inryco, Inc.

Milwaukee
(414) 383-4030

Republic Steel Corp.

Coil Coating Div.
Youngstown
(216) 783-4431

Pittsburgh-Canfield Corp.

Canfield, OH
(216) 533-3311

Wheeling Corrugating Co.

Div. Wheeling-Pittsburgh
Steel Corp.
Wheeling, WV
(304) 234-2548

United States Steel Corp.

Pittsburgh
(412) 433-3974

Dynacure Pre-Coated Steel

Cornwells Heights, PA
(215) 639-0686

Precoat Metals Div.

Chromalloy American Corp.
St. Louis
(314) 352-8000

Reper Eastern

Columbia, MD
(301) 992-6700

Aluminum Coaters

Aluminum Co. of America

Pittsburgh
(412) 553-4545

Consolidated Aluminum Corp.

Coated Products Div.
St. Louis
(314) 878-6950

Bendix Modern Materials Corp.

Detroit
(313) 841-4422

Alumax Mill Products

Willowbrook, IL
(312) 986-9688

Martin Marietta Aluminum Corp.

Lewisport, KY
(502) 295-3451

Aican Aluminum Corp.

Sheet & Plate Div.
Warren, OH
(216) 841-3331

Kaiser Aluminum & Chemical Corp.

Toledo, OH
(419) 729-4601

Reynolds Metals Co.

Richmond, VA
(804) 281-2000

Coated Material Suppliers

Atlas Steel Co., Inc.

Chicago
(312) 346-5960

Bethlehem Steel Corp.

Bethlehem, PA
(215) 694-5691

Inland Steel Co.

Chicago
(312) 346-0300

Jones & Laughlin Steel Corp.

Western Div. Headquarters
Whiting, IN
(219) 659-8380

Interstate Steel Co.

Des Plaines, IL
(312) 827-5151

National Steel Corp.

Pittsburgh
(412) 263-4380

United States Steel Supply

Chicago
(312) 646-3211

Steel Service Centers

Source: NCCA

"GE worked with Roll Coater and Inland Steel Corp. to install heaters on the roll forming lines to preheat the metal before it was formed. The material was elevated to approximately 130 F. the glass transition temperature of the coating, to make it more flexible during forming. As a result, GE obtained the T-bend it wanted—improved a couple of T-bends over what it had anticipated—and did not have to

compromise the coating."

"When you address formability," says Grob (Armco), "you need to have the mutual cooperation of the substrate supplier, painter, paint formulator and end user. The end user may have to sacrifice a little something in hardness or gloss on occasion, but generally we can whip the problems."

"Normally speaking," adds Smith (Wolverine

Aluminum). "if the base metal will make the part we will have a coating that will do the job. The fact that we can deep draw a piece of steel four in. for a speedometer case, and not have the paint separate from the metal, demonstrates the type of technology that is available."

Olt (Nichols-Homeshield) agrees that tremendous progress has been made in deep drawing pre-painted metal. "But sooner or later," he adds, "you will run out of stretch in your paint. You can probably do a shallow draw pretty easily, but you probably can't do a beer can. A rule of thumb is 1½ times diameter."

Weldability. On this issue Grob (Armco) says: "Welding without a zinc-rich primer is pretty darn tough. There is some projection welding that has been flirted with, but in most cases you need to look at riveting, adhesive bonding or some other joining method."

Basil Davies (National Steel) adds: "Joining problems have to be overcome in many applications. If it is a welded application you are going to have a problem. Welding on a production basis is impractical under most conditions. You can, however, use epoxy, stitching, lockseaming or other methods to overcome this obstacle." There are also weldable primers which can be applied to a moving coil as a base coat and then overlaid with a second coat which leaves bare, say, two inches of primed metal along the edge of the material.

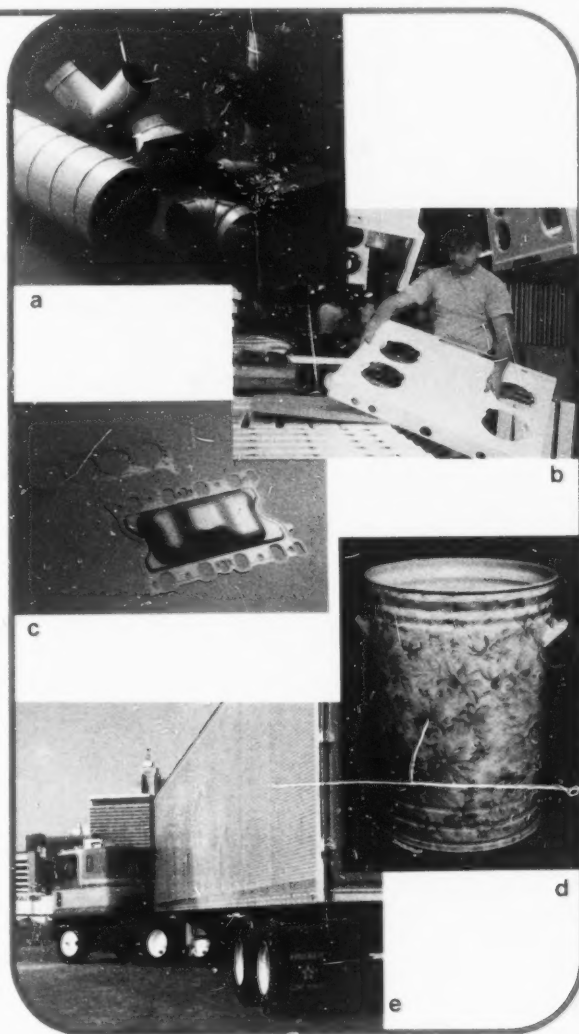
Q What are the primary new markets opening up for pre-coated metal?

There is wide agreement that the appliance industry is where the major growth of pre-coated metals is centered. Grob (Armco) fosters some doubt whether appliance makers will use pre-coated stock for top-of-the-line products. However, he believes there will be some move for products like air conditioners and home heating equipment.

Davies (National Steel) sees farm equipment as a potentially large market. The appliance market and the automotive market beyond Zincrometal also stand out.

Your Personal Copy of this article, or any other article in this issue, is available until supply is depleted. Fill in your request on the Reader Inquiry Card.

John Benson (Roll Coater) says future growth and penetration will be in the appliance industry. He further believes pre-painted metal will prove suitable for top-of-the-line appliances. Farm implements will



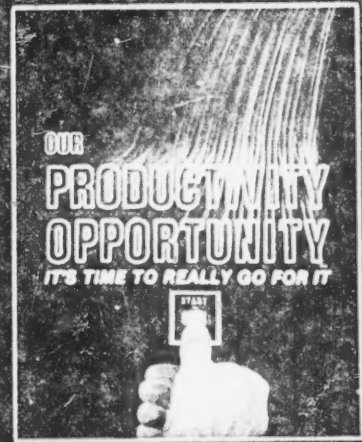
Market penetration by pre-coated metals is broad and diversified. Wolverine Aluminum sees equipment for home heating units and automotive parts (photos A and C) as growth markets. Bethlehem Steel is providing material for the fast-growing appliance market (B) and National Steel has been successful with the truck body market (E). Schleuter Mfg. Co. won an award for its "fancy can." Sixteen colors were applied in one pass using a special coil coating process (D)

offer broad opportunities, too, as will the thousands of fabricated products now post-painted.

"There are going to be changes in the mix of applications served by coil coaters," concludes Smith (Wolverine Aluminum). "We have tapped all the 'easy' markets. The increased capacity of the industry is now forcing us to go out and beat the bushes for new applications."

Brian D. Wakefield □

Our Productivity Opportunity — Part III



Government & Industry... Time for a Partnership

This is the third in a triad of articles. Each article is devoted to a specific facet of the Productivity Opportunity:

Part I — **People**, June issue

Part II — **Technology**, August issue

Part III — **Government**, this issue

In launching the series in June, we wrote: "It's Time To Really Go For It." Thus, the series is about things we can all do now, to alleviate the productivity problem in our own jobs and in our own companies. More than enough hand-wringing has been done on the subject of U.S. productivity. It would be folly to think any manufacturing man is unaware of the problems.

This series presumed, in addition to awareness of the problems, the ability/authority of the reader to take steps toward solving them. Each article sets out guideposts which can be evaluated, selected from, and tailored to unique situations in any plant.

In June, we identified a wide variety of techniques that can be used to enlist the support of every segment of labor and of management in boosting productivity. We cited 23 approaches, which you could use singly or in combination to get more people working more productively.

In August we told about the underutilization of available technology by U.S. industry. We cited some of the technologies that are ready for immediate and extensive exploitation. And we presented a working outline to help you evaluate where you now are and to target where you should be going. We also listed 31 sources of help which can assist you in knowing more about new and developing technologies and in applying them to your own operations.

In this issue, we implore government to become a full partner with industry in productivity improvement. But equally important, we tell specifically what industrialists think government must do . . . and what it must not do. Finally, it suggests what you and your peers in industry can do to assure that government officials see the problems and the solutions clearly.

This series provides you with working knowledge of some of the many-faceted aspects of raising productivity. If you have missed any of the installments, let us know. We also hope you'll keep us posted on your progress.

Most important, we hope the ideas presented in these articles help you directly in your quest for more productivity.

Robert F. Huber □
(continued)



President Jimmy Carter calls for "reindustrialization." Presidential Candidate Ronald Reagan says we "must get the country moving again." The Council of Economic Advisors declares, "improved investment performance is almost surely a necessary condition for higher productivity growth." The chairman of the Council on Wage

& Price Stability says: "As a kind of long-term development in our country we've got to devote a larger portion of our resources to capital investment." A large number of legislators from both houses of Congress and from both sides of the aisle boast of their roles in introducing and sponsoring business tax-reducing bills. And the House Ways and Means Committee and the Senate Finance Committee hear near-unanimous testimony from business and industry groups and individuals on the urgent need for depreciation reform.

American productivity is almost, but not quite, "Topic A" for our government leaders. For the moment, the state of the economy and the upcoming election have nudged it slightly to one side.

There is a possibility that this Congress and this Administration will even yet act decisively on the productivity-stimulation issue. Certainly what needs to be done is clearly understood. The timetable is the major question mark and political factors may be the determinant.

A strong call now from private individuals to this government for leadership action that will encourage the business community to increase its productivity-improving investments is imperative.

James A. Gray, president of the National Machine Tool Builders' Association, provides you, the readers of *PRODUCTION*, with a pattern for your request for this kind of action:

"I would like to impress on everyone in America—particularly those who are running for election and those who will be in the next Congress and Administration of the United States—that the need for productivity improvement in America is not just a passing fad.

"Some people seem to believe that the productivity improvements achieved by our industrial competitors in Japan and Germany are due to the rebuilding efforts from World War II. But World War II ended nearly 30 years ago, and the average age of machine tools in other nations is less than ten. The industrialized nations of the world have rebuilt their plants more than once since World War II. Their productivity growth is a direct result of their savings and investment in the future of their national economies."

(Ed. note: A table showing the percentage of GNP going into capital investment for various industrialized countries appears as Chart 1, below.)

"We in America seem to have forgotten that investment was the key that unlocked the door of prosperity for the United States," Gray continues.

"New investment in productivity-improving plant and equipment is what creates new jobs. Jobs for Americans cannot be created out of thin air. They can only be created by putting up the bricks, mortar and iron that are necessary to provide the tools for an expanding workforce.

"Some Americans seem to have forgotten that it is savings, investments and the resulting productivity improvement of the last 100 years that made America the most powerful nation on the face of the earth and gave Americans the standard of living that set the goals for the rest of the world.

"We must remember this economic fact of life and we must do everything possible to increase our savings and investment in America's future," Gray stresses.

The relationship of productivity's growth and capital investments is shown in Chart 2 on facing page, prepared by NMTBA.

The influence of tax incentives on capital equipment investment is clearly indicated in NMTBA's Chart 3.

For your convenience in letting the appropriate people in the government know your opinion on the kinds of action they should be taking, a list of Representatives and Senators most directly involved in consideration of tax legislation is provided on p. 118. Also listed are key Administration officials.

Industry Wants a Supportive "Climate." At the outset of this three-part series on "Our Productivity Opportunity," Washington's role in determining the climate for productivity improvement was under-

CHART 1

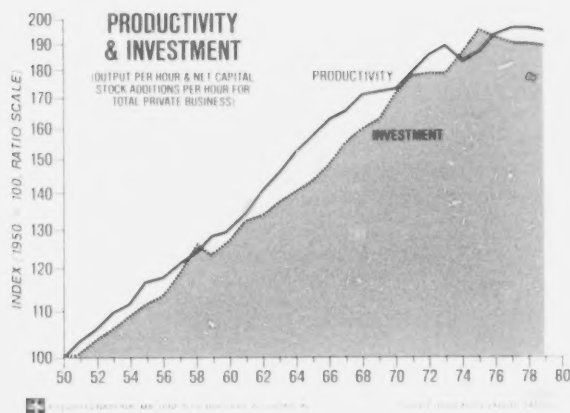
Average Annual Rate of Capital Investment As a Percent of Output* 1960-1978

Japan				28.0
Canada		19.6		
Germany		19.4		
France		19.0		
United Kingdom	17.0			
United States	14.7			

Source: U.S. Department of Labor, Office of Productivity and Technology, July 1980. Requested by George A. Strickman, chairman, Colt Industrial Action, the House Ways & Means Committee July 29, 1980.

*Excludes government investment.

CHART 2



scored. Many of industry's pending decisions for changes in manufacturing operations that aim at boosting productivity through equipment purchase hinge on an improvement in that climate.

It is an almost universal opinion by articulate industry members that government should take four actions to help industry:

- First, it should provide aids to capital formation and capital recovery that would be competitive with those available in other industrialized nations;
- Second, it should open up the patent procedure on government-owned inventions;
- Third, it should stimulate cooperative research and development efforts;
- Fourth, it should relax or rescind production- and productivity-stifling regulations whose costs exceed their benefits.

Otherwise, says an almost unanimous chorus: "Keep hands off!"

The strength of this viewpoint is acknowledged by Elmer B. Staats, Controller General of the U.S., who last fall said: "We at the General Accounting Office are well aware of private sector resistance to government intervention in business.

"In the fall of 1977, GAO sent questionnaires to 1200 firms throughout the country to obtain their perspectives on productivity and to determine whether there is an appropriate role for the federal government. A vast majority of these firms said they did not want federal assistance, and most were adamantly opposed to any further government interference in private sector operation. Given a choice between receiving technical or financial help from the federal government or from private sector institutions, 85 percent opted for private sector assistance," he reported.

PRODUCTION asked the participants at its Productivity Round Table in Chicago (June issue, p. 86) what they believe are the appropriate roles for government in stimulating American productivity.

A change from the stifling effect of present gov-

ernment regulations was their first recommendation.

"I find, in reviewing the financial impact of government influence, that over just the past three years 7 percent of my factory cost increases are directly attributable to government regulations," said Gerald Thompson, vice president-manufacturing, Ekco Housewares Co., Franklin Park, IL.

"We're all highly subject to OSHA inspections and EPA regulations. Not that they're not necessary—everyone owes it to every employee to provide a safe environment in which to work . . . and I don't subscribe to killing fish either. But I think that in the present situation there's a pendulum effect, and I think the government just has to recognize that moderation is necessary to avoid really destroying our American capability," he concluded.

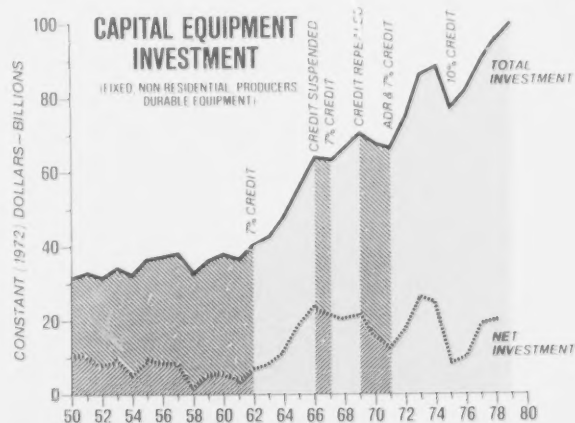
Exclaimed Jim Drzewiecki, plant manager, Acco International Inc., Wheeling, IL: "There is one thing I can think of that the government has done that is beneficial from the standpoint of productivity: They have set the best example of what not to do!"

"I made the comment that they should get out, but they're not going to get out," Robert Klimpel, vice president-manufacturing, A.B. Dick Co., Niles, IL, counseled.

"We collectively brought them in because we weren't doing an adequate job in worker safety and preservation of the environment. But they came in at a level where they don't have an understanding of industrial operations. And, unfortunately, we don't have an organization for industry that, in my opinion, can be heard by the government—we're too splintered. The unions do extremely well in this regard and we can learn some lessons from them."

"I agree that we should have a withdrawal of the government from the private sector," added Muzamil Niazi, vice president-manufacturing, North American Operations—Payline Group, International Harvester Co., Schaumburg, IL. "but I would hope

CHART 3



Prepared by NATIONAL MANUFACTURING & PRODUCTIVITY ASSOCIATION

SOURCE: BUREAU OF ECONOMIC ANALYSIS

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that the deregulation process is gradual, otherwise there will be chaos in the marketplace."

In a more positive vein, several of the participants identified a more liberal and realistic depreciation policy as the other thing they need from government.

"The proposed Capital Cost Recovery 10-5-3 program we have been reading about would give more incentive for investment," Niazi noted. "There is enough economic history to show that incentives to industry that increase capital investment have played a role—a major role—in America's past productivity growth."

"From what I've heard, the Japanese government has helped its industry substantially in becoming strong. If we had some of these same incentives, I think we'd use them," he predicted.

Desire for action of this type was echoed by Walter Feldmahr, vice president-manufacturing, Acco International: "It would be helpful to us if we were allowed shorter depreciation periods by the government. With a ten-year requirement, we can't 'make it' for some of the more expensive equipment we could effectively use."

The "Climate" Improves. A.B. Dick's Klimpel erred in calling industry's voice "too splintered" to be heard by government.

This summer, to an unprecedented extent, the voices of business and industry were single-purpose and were heard by unusually attentive ears in Washington.

Discussions by PRODUCTION with more than a dozen major business-related associations and with members of the staffs of the tax-proposing Congressional committees affirm both the unified position of the business community for a more lenient policy on recovery of capital and the sympathetic consideration of Congressional leaders for such action. Of perhaps even greater importance for the long haul is the evidence of beginnings of a cooperative rather than an antagonistic spirit between business, labor and usually partisan factions in the government.

The tone of this cooperative attitude was set this year by Sen. Lloyd Bentsen (D, TX) in his introduction to the Report of the Joint Economic Committee of the Congress in response to the President's annual Economic Report.

Chairman Bentsen wrote: "The Majority and Minority Members of the Joint Economic Committee have risen above political partisanship in this election year to once again issue a unified annual report . . . The Committee recommends that fully one-half of the next tax cut be directed to enhancing saving and investment in the economy . . . The Committee's 1980 report recognizes that continuation of the historic adversary relationship among government, business and labor is a major impediment to implementation of supply side policies to improve productivity . . ."

The ranking minority member of the Committee, Rep. Clarence J. Brown (R, OH), added: "To achieve another consensus report, this time in a national election year, is a remarkable accomplishment, attesting to the soundness of the policy recommendations contained therein."

"The 1980 Joint Economic Committee Report is not a vague compromise of mushy logic. It is a clarion call to get this country moving again. And it offers a new, clear set of policies to generate real, sustainable economic growth without inflation. It is forthright, revolutionary, and important."

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Emphasis on "Supply Side." This report, which merits study by everyone interested in the subject of America's eroding productivity, contains 32 recommendations.

The report is notable for many things, the most important of which is, as stated by Sen. Bentsen, that it "signals the start of a new era of economic thinking."

The past, he says, "has been dominated by economists who focused almost exclusively on the demand side of the economy." Now, the Joint Economic Committee "recommends a comprehensive set of policies designed to enhance the productive side, the supply side of the economy."

The Committee, he adds, "is now on record in support of the view that tax policy can and should be directed toward improving the productivity performance of the economy over the long term and need not be enacted only to counter a recession."

The rhetoric of both political parties' conventions and platforms to the contrary notwithstanding, Sen. Bentsen, with these remarks, set the likely tenor for what major tax legislation ultimately will be enacted.

The political appeal of an immediate tax cut heavily slanted toward individual taxpayers rather than a major tax reform that would emphasize business stimulation may prevail this fall, but many knowledgeable Capitol Hill watchers doubt that it will. The strength of the current Administration's resolve against that lure and resistance of several Congressional leaders to be stampeded may be key factors.

In fact, to head off legislative action of the currently pending tax-reduction bills was the reason for the Administration's announcement on Aug. 28 of the contents of its proposed economic package, which it wants considered by next year's Congress.

Disparagingly called an "economic Christmas tree" because of its comprehensiveness and its content of something for everybody, the package would provide

for 40 percent faster depreciation of capital assets than the current regulations. Fifty-five percent of its proposed benefits are calculated to accrue to business. It however, is also strongly aimed at job creation as well as tax reduction.

Current Legislative Proposals. A large number of tax bills, calling for lower personal and business taxes, have been introduced in the House and Senate and are currently being considered by the House Ways & Means Committee [under the chairmanship of Rep. Al Ullman (D. OR)] and the Senate Finance Committee [under the chairmanship of Sen. Russell B. Long (D. LA)].

The so-called "10-5-3" "Capital Cost Recovery" bills—H.R. 4646, introduced by Representatives James R. Jones (D. OK) and Barber B. Conable, Jr. (R. NY), and S. 1435, introduced by Senators Gaylord Nelson (D. WI), Lloyd Bentsen (D. TX), Robert Packwood (R. OR), and John H. Chafee (R. RI)—have wide Congressional backing and appear to have greatest industry/business support. S. 1435, for example, was sponsored by 70 Senators. These provide for a ten-year capital recovery period for buildings, five years for equipment and three years for light vehicles.

Hearings on these bills and other tax proposals by both the House and Senate committees in late July/early August produced nearly unanimous support from corporate executives and from representatives of major business and trade associations.

To lessen the immediate tax revenue loss of 10-5-3, it provides for a five-year phase-in of its full depreciation provisions for equipment and buildings. The ultimate effective depreciation schedule of 10-5-3 as it is presently written is presented in Table 1, below.

Some persons and groups favor a tax system that

would have an indexing factor to allow depreciation amounts to vary with the inflation rate. Table 2 shows the effects of Simplified Cost Recovery (SCR) (Rep. Ullman's bill) and Asset Depreciation Range (ADR) with Indexing as well as 10-5-3. Table 3 (next page) looks at the tax benefits provided by depreciation under straight line accounting, ADR, and 10-5-3.

Congress is extremely mindful of what inflation has done to individuals' higher tax liabilities through "bracket creep." Its members also realize the total inability of businesses to recover the replacement costs of plant and equipment through current "useful life" depreciation allowances.

TABLE 2

**Capital Cost Recovery Comparisons —
Summary of Present Value, \$10,000 Investment**

Tax Benefit of Depreciation Investment Tax Credit Using Current and Three Proposed New Methods*					
Assumptions: Depreciation Expenditure Tax Credit; 10% Inflation; 10% Rate of Return; 40% Tax Rate					
	Present Lower Limit Asset Depreciation Range (ADR) Life	Current ADR	ADR With Indexing	Simplified Cost Recovery (SCR) (H.R. 7015)	Capital Cost Recovery Act (10-5-3) (H.R. 4646 & S. 1435)
Vehicle	3 yrs	\$4,458	\$4,818	\$4,700	\$4,742
Heavy Machinery	10 yrs	4,161	5,204	4,904	4,923
Industrial Plant	20 yrs	3,339	4,863	4,745	4,823
Building	40 yrs	1,128	2,614	1,888	2,198
Assumptions: Depreciation Expenditure Tax Credit; 10% Inflation; 10% Rate of Return; 40% Tax Rate					
Vehicle		\$4,297	\$4,823	\$4,676	\$4,627
Heavy Machinery		3,893	5,215	4,911	4,641
Industrial Plant		3,021	4,680	4,467	4,611
Building		916	2,488	1,813	2,022

*Source: William G. Rees, "Measuring the Impact of Tax Reform on Business Investment," *Public Finance*, Vol. 47, No. 1, Spring 1976, pp. 27-40.

TABLE 1

**Capital Cost Recovery Table
(10-5-3)**

Recovery Year	Class 1 (Buildings)	Class 2 (Equipment)	Class 3 (Light-duty vehicles)
1	10%	20%	33%
2	18	32	45
3	16	24	22
4	14	16	
5	12	8	
6	10		
7	8		
8	6		
9	4		
10	2		

The disparity of our capital recovery tax laws compared with those of competitive nations was a major point also registered by many of the business spokesmen at the Congressional hearings.

Among other tax bills presently under consideration, some propose tax relief for R&D funding, some propose offsets for the increased heavy Social Security tax bite scheduled to go into effect Jan. 1, and others want changes to the present double taxation on corporate profits and shareholders' dividends, to name a few of these proposals.

A massive overhaul of the tax structure, rather than the conventional piecemeal approach, would apparently be industry's preference. But the demand generally is for whatever can be passed—as quickly as possible.

How "Big" Is Business? While business now hopes for an end to the short-range expedient "fine-tuning" types of action that Congress and the Administration have been prone to take, and the beginning of a long-range, supportive, stable and dependable legislative and regulatory environment, the dedication of business to that same degree of discipline is not especially outstanding.

On-again, off-again decisions with respect to capi-

TABLE 3

Comparison of Tax Benefits from Three Depreciation Methods*

Assumption: Office equipment costing \$100,000; 100% first-year depreciation; 5-year MACRS recommended life; 10% annual AFR rate; 5-year, 10% straight-line value.

STRAIGHT LINE METHOD	Year 1	Year 2	Year 3	Year 4	Year 5
Cost	\$100,000				
Current Depreciation	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Tax Effect @ 46%	\$9,200	\$9,200	\$9,200	\$9,200	\$9,200
Investment Tax Credit	\$10,000				
Cumulative Tax Benefit	\$19,200	\$28,400	\$37,600	\$46,800	\$56,000

ASSET DEPRECIATION RANGE — 200% Declining Balance

Cost	\$100,000				
Current Depreciation	\$20,000	\$40,000	\$80,000	\$16,000	\$8,000
Tax Effect @ 46%	\$9,200	\$18,400	\$36,800	\$7,360	\$3,680
Investment Tax Credit	\$10,000				
Cumulative Tax Benefit	\$19,200	\$56,800	\$93,600	\$100,960	\$104,640

"10-5-3"

Cost	\$100,000				
Current Depreciation	\$20,000	\$40,000	\$80,000	\$16,000	\$8,000
Tax Effect @ 46%	\$9,200	\$18,400	\$36,800	\$7,360	\$3,680
Investment Tax Credit	\$10,000				
Cumulative Tax Benefit	\$19,200	\$56,800	\$93,600	\$100,960	\$104,640

*Source: U.S. Treasury Department, Office of Economic Policy, "The Tax Effects of Depreciation Methods," p. 10.

tal investments are not totally tax law-related. The tendency of many business managers to be measured by and governed by their companies' quarterly and annual financial reports has come under heavy editorial fire recently. Projects with probable benefits in the long term play poor second fiddle to those with immediate payoffs.

This tendency runs counter to that taken by our major international manufacturing competition, where long-range major commitments to basic productivity-improving investments are routinely made. Four examples of this were given in Editor Robert Huber's August 1980 editorial (p. 5). He observed: "Where we come up short is in the utilization of methods and of technologies that are known and available to us."

Pressure on U.S. industry to adopt a longer-range

view with respect to risk-taking insofar as R&D, product development and purchasing of state-of-the-art equipment are concerned may come with the now-increasing invasion of foreign capital and management philosophies. Seeing at close range how these companies and managers operate may offer an American executive a new type of postgraduate course in capital investment analysis and decision-making.

The adaptability of American business to change is today as much at test as the government's. Outside of issuance of financial reports, however, it has no obligation to present its collective "Economic Report to the Nation." Its reaction through tangible investments to the government-promised business-stimulating reforms will show its "bigness" in looking to its long-range economic vitality.

It's Up to Us. PRODUCTION has presented a picture of America's productivity as a three-legged stool supported by people, as managers and rank-and-file, with their individual and collective motivations and effectiveness; by technology, in the development of which America still leads the world; and by government, whose role ideally is supportive and not unduly restrictive of the actions of its private and corporate citizens.

A country's business managers can neglect their responsibilities to any of these three "legs" at their peril. That's happened before in other once-great industrial nations.

Thankfully, for America at this moment, our productivity is not on a deathbed where crisis actions that may or may not be successful need to be taken. No desperation attempts at resuscitation are necessary.

We know the kinds of preventive medication we should be taking. The productivity improvement opportunity is ours to seize, or . . .

Howard C. Tuttle

MAKE YOUR VIEWS KNOWN

Following are some of the individuals directly involved with government tax policy. If you have an opinion on what help industry needs from government to help stimulate its productivity, write to any or all of these officials:

YOUR CONGRESSMAN

YOUR TWO SENATORS

PRESIDENT JIMMY CARTER

The White House
Washington, DC 20500

G. WILLIAM MILLER

Secretary of the Treasury
Department of the Treasury
1500 St. and Pennsylvania Ave.
Washington, DC 20220

CHARLES J. SCHULTZE

Chairman, Council of Economic Advisors
Old Executive Office Bldg.
Washington, DC 20506

Rep. Al Ullman, (D, OR), Chairman

Rep. Barber B. Conable, Jr., (R, NY)
Ranking Minority Member
House Committee on Ways and Means
1102 Longworth Bldg.
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Sen. Russell B. Long, (D, LA), Chairman

Sen. Robert Dole, (R, KS)
Ranking Minority Member
Senate Committee on Finance
2227 Dirksen Bldg.
Washington, DC 20510

Sen. Lloyd Bentsen, (D, TX), Chairman

Rep. Clarence J. Brown, (R, OH)
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